

NEW STAPELIEAE FROM SOUTHERN ARABIA

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(With Plates XVI and XVII)

Huernia lodarensis Lavranos nov. sp., affinis *H. erinaceae* Bruce et Bally, sed caulibus erectis, valide dentatis, tubo corollae haud constricto, lobis corollae brevioribus latioribusque discedit.

Caules erecti, validi, 5—7 cm. longi, 25 mm. diam. dentibus inclusis, glabri, glaucovirides, purpurei maculati, pentagoni; dentes validi, valde acuti, horizontaliter divergentes; flores bini, ex basi caulium producti, deinceps aperientes; bractae lineares, acutae, a 6 mm. longae; pedicelli teretes, glabri, ca. 8 mm. longi, 1 mm. diam.; sepala linearea, acuta, carinata, 10 mm. longa, basi 1 mm. lata; corolla 15 mm. longa, 32 mm. diam. inter loborum apices, intus lutescens, anguste purpurea marginata, basi et parte inferiori tubi glabra lineis transversalibus purpureis induta, deinde maculis purpureis, saepe confluentibus et papillis albescentibus, purpureis maculatis, a 1 mm. longis dense induta; extus lutescens, minute tuberculata; tubus campanulatus, 11 mm. longus, 11 mm. latus; lobi patuli, deltoidei, apice leviter reflexo et acutissimo, 9 mm. longi, basi 9 mm. lati, extus prominente 5-nervi; lobi intermedii 1.2 mm. longi; corona exterior fusco-purpurea, 5 mm. diam., basi tubi adpressa, lobis apice rotundatis, obscure bifidis; coronae interioris lobi albescentes, maculis purpureis pauculis induti, glabri, primum erecti et complanati, deinde divergentes et teretes, 3.5 mm. longi, basi 0.8 mm. lati, apice obtuso, haud incrassato.

TYPE LOCALITY: South Arabian Federation, Audhali Sultanate, on sandy plain 5 miles South of Lodar, lat. 13° 52' N., long. 45° 51' E. alt. appr. 900 metres (3,000 feet), coll. August 19, 1962, fl. Pretoria, November 29, 1963, Lavranos 1900 (KEW, holotype).

Stems erect, very stout, 5—7 cm. long, 25 mm. thick including the teeth, glabrous, glaucous-green mottled with purple, 5-angled; teeth stout, very acute, spreading horizontally.

Flowers in pairs from the base of young stems, developed successively.

Bracts linear, acute, up to 6 mm. long.

Pedicel terete, glabrous, ca. 8 mm. long, 1 mm. diam.

Sepals linear, acute, carinate, 10 mm. long, 1 mm. broad at base.

Corolla 15 mm. long, 32 mm. diam. between apices of lobes; outer surface

cream, minutely tuberculate; inner surface cream with a narrow purple-brown margin, marked with purple-brown, often confluent spots and densely covered with cream, purple-banded papillae which are 1 mm. long at mouth of tube but shorter towards the apices of the lobes; base and lower part of tube glabrous, cream with transverse purple-brown bands, especially towards the mouth; tube campanulate, 11 mm. long, 11 mm. diam.; lobes spreading horizontally, deltoid, tapering rather abruptly to an elongate, very acute and somewhat reflexed apex, 9 mm. broad at base, 9 mm. long, outside prominently 5-nerved; intermediate lobes 1.2 mm. long.

Outer corona dark purple, 5 mm. diam., glabrous, adpressed against the corolla-tube, the lobes as long as they are wide, rounded and obscurely bifid at their apices.

Inner corona lobes whitish with a few fairly large, purple spots, erect at first, thereafter divergent-ascending, 3.5 mm. long, 0.8 mm. broad at base, flat low down, terete towards their rather obtuse but not enlarged apices, glabrous.

In habit of growth, form and colour of stems, *H. lodarensis* strongly resembles *H. somalica* N.E. Br., *H. hadhramautica* Lavranos, and other species from N.E. Africa and Arabia. From all these it is distinguished by its flowers.

In floral characters our species has its closest ally in *H. erinacea* Bruce et Bally from near Moyale on the border between Ethiopia and Kenya. However, in the latter species, the stems are always procumbent with rounded angles and no prominent teeth. Moreover, the corolla-tube is constricted below the mouth (a character which is absent in *H. lodarensis*) while the strongly revolute corolla-lobes are considerably longer than they are broad.

H. lodarensis is clearly related to the *H. hystrix* group of species and more particularly to *H. volkartii* Gossw. and its variety *nigeriana* Lavranos (q.v.) but differs in too many respects from the latter two taxa. It is, consequently, preferable to assign it specific rank. It is, nevertheless, possible that future discoveries of intermediate forms on the African continent may render necessary a taxonomic revision of the entire group to which this species belongs.

H. lodarensis was found by the author on August 19, 1962, under bushes on the sandy plain 5 miles South of Lodar, in the Audhali Sultanate of the South Arabian Federation. It does not appear to be common and was growing, in the partial shade of *Acacia* spp., in association with *Caralluma penicillata* (Defl.) N.E. Br., *C. deflersiana* Lavranos, *Duvalia sulcata* N.E. Br., *Sansevieria ehrenbergii* Schweinf., *Cissus quadrangularis* L., *C. rotundifolia* (Forsk.) Vahl, *Adenia venenata* Forsk., and other low plants. Its habitat is rather hot and receives an average annual rainfall of some 200 mm. which falls mainly in August and September.

Echidnopsis seibanica Lavranos nov. sp., affinis *E. scutellatae* (Defl.) Berger, sed caulibus hexagonis, floribus minoribus, corolla profunde lobata, coronae

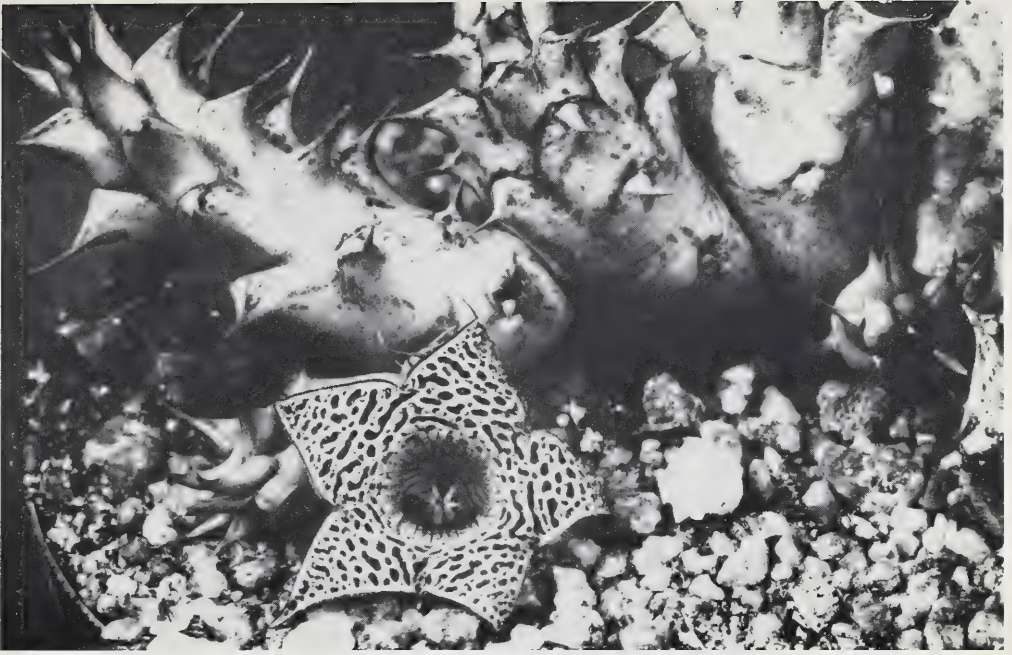


FIG. 1. *Huernia lodarensis* Lavranos, appr. x2.

Photo: Botanical Research Institute, Pretoria.



FIG. 2. The sandy plain S.E. of Lodar, habitat of *H. lodarensis* Lavranos.
Audhali escarpment in the distance.

PLATE XVI.



FIG. 1. *Echidnopsis seibanica* Lavranos $\times 1.75$.
 Photo: Botanical Research Institute, Pretoria.



FIG. 2. The limestone plateau south of Mola Matr, habitat of *E. seibanica* Lavranos,
 with the Kor Seibair in the distance.

Photo: C. Meintjes.

exterioris margine pilis rigidibus armata, lobis coronae interioris brevissimis discedit.

Caulis decumbentes, ascendentes vel pendentes, supra vel infra solum ramiferi, 3—15 cm. longi, 6—9 mm. diam., semper hexagoni, virides vel brunneo-virides, subcylindrici, tessellati-tuberculati; folia ovata-cuspidata, 0·8 mm. longa, primum viridia, mox scariosa, denique decidua; flores bini ex parte apicale caulium deinceps producti; pedicelli teretes, flavescentes, 1 mm. longi, 1 mm. diam.; sepala deltoidea, rigida, flavescentia, 1 mm. longa, corollae tubo arcte adpressa; corolla campanulata, carnosa, 2·5 mm. longa, inter apices loborum 6 mm. diam.; extus minute tuberculata flavescentia, parte inferiore parce rubropunctata; intus sulfurea, intra tubum parce et minute rubropunctata, minute tuberculata; tubus 0·75 mm. longus, 2 mm. diam.; lobi 2·5 mm. longi, 1·5 mm. lati, primum adscendentes, deinde patuli sectione convexi, deltoidei, apice rotundato; corona exterior cupuliformis, 1·5 mm. diam., marginibus erectis, lobis 5, brevibus, rotundatis, apice truncatis, roseo-flavescentia, rubro-purpurea punctata, loborum apicibus fuscis rubropurpureis, margine pilis rigidibus, brevibus, incoloribus, introspicientibus parce instructo; coronae interioris lobi 0·3 mm. longi, albi, purpurei punctati, supra antheras arcte incumbentes sed eis dimidio breviores, corona exteriore adnati, adscendentes.

TYPE LOCALITY: Southern Arabia, Hadhramaut, Southern slopes of Kor Seiban, lat. 14° 47' N., long. 48° 48' E., alt. appr. 1,800 metres, coll. August 21, 1962, fl. Pretoria December 16, 1963, (KEW, holotype).

Stems branching freely above ground or subterraneously, procumbent, ascending or pendent, 3—15 cm. long, 6—9 mm. diam., uniformly six-angled, green or brownish-green, sub-cylindric, the tessellately divided tubercles arranged in neat rows.

Leaves ovate-cuspidate, green on young growth, soon becoming scarious, at length deciduous, 0·8 mm. long.

Flowers in pairs from near the apex of the stems, developed successively.

Pedicel terete, greenish-yellow, minutely tuberculate, 1 mm. long, 1 mm. diam.

Sepals deltoid, rigid, greenish-yellow, 1 mm. long, adpressed against the corolla tube.

Corolla campanulate, fleshy, 2·5 mm. long, 6 mm. diam. between apices of lobes; *outer surface* minutely tuberculate, cream; with a few reddish spots on the tube; *inner surface* sulphur-yellow with minute red spots within the tube and on the lower part of the lobes, minutely tuberculate; *tube* 0·75 mm. long, 2 mm. diam.; *lobes* deltoid and with a rounded apex when pressed flat, convex in transverse section, ascending at first, then spreading, 2·5 mm. long, 1·5 mm. broad at base.

Outer corona cupular, 1·5 mm. diam., with erect margins and five rounded,

erect, rather truncate lobes, pinkish with red-purple spots, the apices of the lobes red-purple; a few colourless, stiff hairs arise from the inner surface of, and at right angles to, the margin of the outer corona.

Inner corona lobes ascending, deltoid, convex, less than 0.3 mm. long, whitish with numerous, minute, red-purple dots, closely incumbent upon but very much shorter than the anthers, adnate at their base to the outer corona below the sinuses separating the outer corona lobes.

E. seibanica has its closest ally in *E. scutellata* (Defl.) Berger. In the latter species, however, the stems are stated to be uniformly 8-angled while in *E. seibanica* they are 6-angled, almost without exception. In *E. scutellata*, the flowers are larger (ca. 10 mm. diam.), the corolla-lobes deltoid, acute and as broad as they are long, rather flat in transverse section and with revolute margins. The cupular corona is yellow, with margins that are spreading and not erect as in the new species. The inner corona lobes are slightly longer than and horizontally incumbent upon the anthers. Finally *E. seibanica* appears to differ from its closest ally as well as from all other members of the genus by virtue of the stiff, colourless setae which radiate inward from the margin of the outer corona.

Our species was found in considerable numbers on limestone, in the vicinity of the Government Rest House of Mola Matr, which is 54 miles by road to the North of the port of Mukalla in the Hadhramaut, and lies at the Southern foot of the Kor Seiban, highest mountain in the Hadhramaut. It appears to be plentiful in this area.

It was grown successfully in the collection of the Botanical Research Institute, Pretoria, where it flowered on December 16, 1963.

In its habitat, our species was found growing in exposed places, in association with *Acacia* spp., *Euphorbia balsamifera* Ait., *E. phillipsiae* N.E. Br., *Kalanchoe teretifolia* Defl., *Dorstenia foetida* (Forsk.) Schweinf., *Ficus salicifolia* Vahl, *Aloe inermis* Forsk. (= *A. luntii* Baker), many other Stapelieae, low growing Compositae, Leguminosae and others.

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